

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended)     An active matrix array comprising:  
an array of matrix elements arranged in rows and columns, each matrix element comprising a circuit;  
a plurality of first and second column conductors,  
each arranged for inputting data signals to or outputting data signals from the matrix elements of a respective column in first time ~~periods~~periods, and  
each arranged for providing power supply voltages for the circuit to the matrix element in second time periods interspersed between the first time periods,  
wherein the first column conductors supply first voltage and the second column conductors supply second voltage to each matrix element and wherein the first voltage and the second voltage are separate voltages.

2. (Previously presented)     The active matrix array according to claim 1, wherein each matrix element further comprises differentiating means for operating according to whether the column conductors are being supplied with the power supply voltages or whether the column conductors are being supplied with the data signals.

3. (Currently amended) The active matrix array according to claim 2, further comprising:

a plurality of row conductors, each arranged for inputting a control signal to the matrix elements, the control signal being such as to indicate to the matrix elements when the column conductors are being supplied with the power supply voltages and when the column conductors are being supplied with the data signals,

wherein the differentiating means in each matrix element operates in response to the control signal.

4. (Currently amended) The active matrix array according to ~~any of claim 1,~~ wherein the matrix elements are pixels for a display device, each pixel comprises a pixel electrode and a pixel select switching means coupled to the pixel electrode.

5. (Previously presented) The active matrix array according to claim 4, wherein the circuit is a refresh circuit for refreshing the pixel electrode.

6. (Previously presented) The active matrix array according to claim 4, wherein the pixels are adapted such that the control signal is used to indicate to the pixel when the column conductors are carrying the power supply voltages and to switch the pixel from a state where the pixel electrode receives picture data from the column conductors to a state where the pixel electrode receives inverted refresh picture data from the circuit.

7. (Currently amended) The active matrix array according to ~~any of~~ claim 1, wherein the circuit comprises a CMOS inverter.

8. (Currently amended) The active matrix array of ~~any of~~ claim 4, wherein each matrix element further comprises a first control thin film transistor (TFT) having a gate terminal coupled to one of the row conductors arranged to allow picture data to be provided to the pixel electrode only when the control signal is set such as to turn the first control TFT on.

9. (Previously presented) The active matrix array according to claim 8, wherein each matrix element further comprises a second control TFT having a gate terminal coupled to one of the row conductors arranged to allow refresh data to be provided to the pixel electrode only when the control signal is set such as to turn the second control TFT on and the first control TFT off.

10. (Previously presented) The active matrix array according to claim 9, wherein each matrix element further comprises a third control TFT having a gate terminal coupled to one of the row conductors arranged to allow the power supply voltages to be supplied to the circuit only when the control signal is set such as to turn the second and third control TFTs on and the first control TFT off.

11. (Currently amended) The active matrix array according to ~~any of~~ claim 1, wherein each matrix element is coupled to first and second adjacent column conductors;

a first power supply voltage level is supplied to the circuits of a first column of matrix elements via the first column conductor arranged to also input or output data signals to or from the first column of matrix elements, and

a second power supply voltage level is supplied to the circuits of the first column of matrix elements via the second column conductor arranged to also input or output data signals to or from a second column of matrix elements.

12. (Previously presented) A method of operating an active matrix array device comprising a plurality of first and second column conductors and an array of matrix elements arranged in rows and columns, wherein each matrix element comprises a circuit requiring power supply voltages to be supplied to the circuit, the method comprising:

connecting each matrix element to one first and one second column conductors;

in first time periods, inputting a data signal to or outputting a data signal from the matrix element via the first column conductor and

in second time periods interspersed with the first time periods, providing the power supply voltages to the matrix element via the first and second column conductors,

wherein the first column conductors supply first voltage and the second column conductors supply second voltage to each matrix element.